

ONE NEW SPECIES AND THREE NEW RECORDS OF TACHINIDAE FROM LIAONING, CHINA (INSECTA, DIPTERA)

ZHANG Chun-Tian, FU Chao

Liaoning Key Laboratory of Biological Evolution and Biodiversity, Shenyang Normal University, Shenyang 110034, China; E-mail: chuntianzhang@yahoo.cn

Abstract *Fausta latipennis* sp. nov. (Diptera, Tachinidae) is described from Liaoning, China and three species, *Acemya pyrrhocera* (Villeneuve), *Hemyda obscuripennis* (Meigen), *H. vittata* (Meigen) are newly recorded to China. The types and other examined specimens are all kept in the Insect Collection of Shenyang Normal University.

Key words Tachinidae, new species, new records, Mt. Tiecha, China.

1 Introduction

In the course of studying Tachinidae (Insecta, Diptera) of Mountain Tiecha National Forest Park of Benxi, Liaoning Province in NE China, one new species is found and is described below and three species are recorded for the first time in China.

The specimens were studied all collected in Mountain Tiecha National Forest Park of Benxi, Liaoning Province in NE China and are kept in the Insect Collection of Shenyang Normal University. Terms follow mainly McAlpine (1981) but that of the male terminalia follows Sinclair (2000).

2 Taxonomy

2.1 *Fausta latipennis* sp. nov. (Figs 1 – 7)

Diagnosis. Frons 0.30 – 0.33 head width; prementum 2.0 – 2.5 as long as wide; yellow palpi; 2 katapisternal setae; legs and abdomen black.

Description. Body length about 8.5 – 10.5 mm.

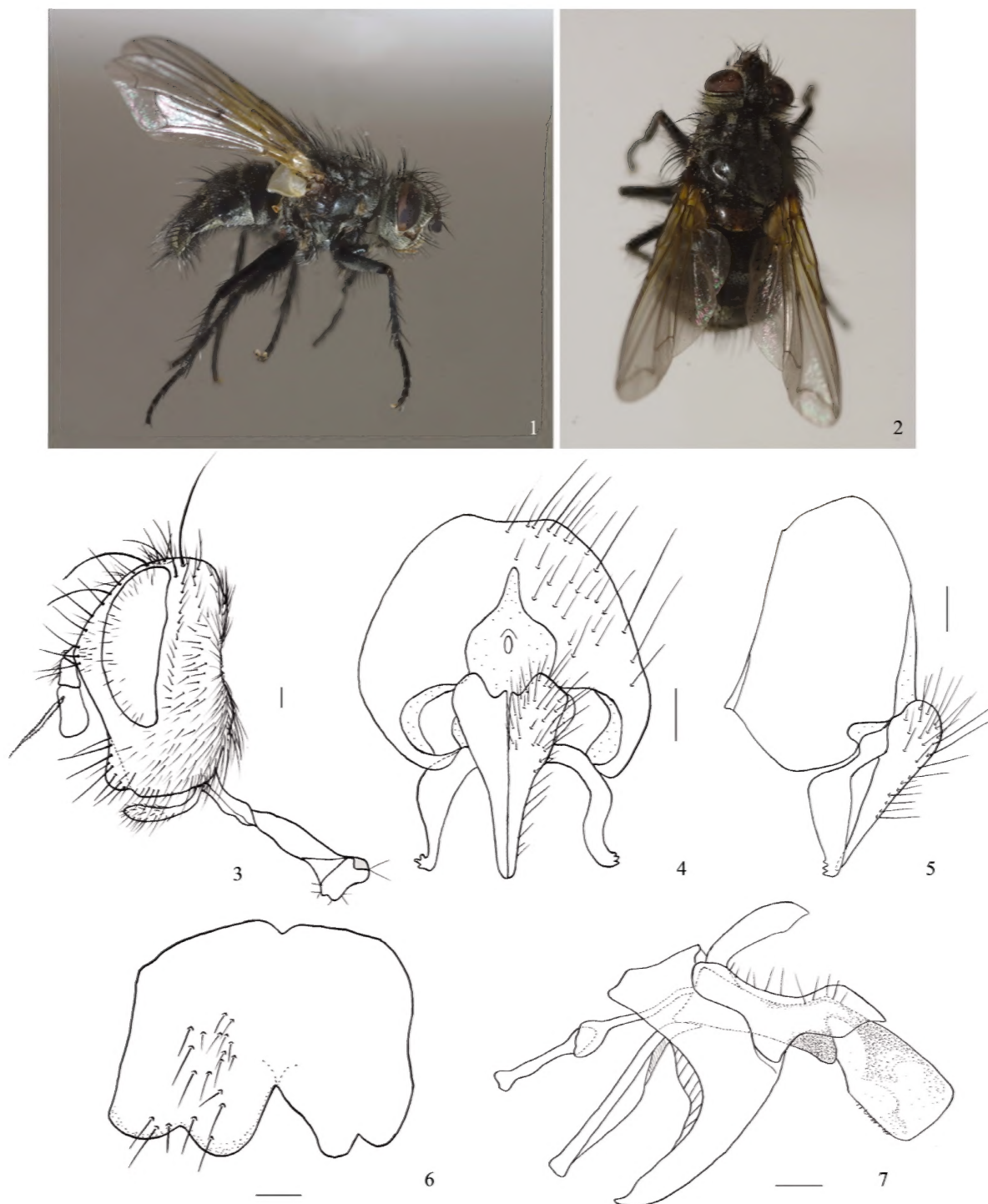
Male. Head. Frontal vitta brown dark; fronto-orbital plate, parafacial, gena and occiput with grayish pruinosity; face redish yellow with grayish pruinosity; lunule dark brown; area composed with vibrissa, genal groove and gena arranged in a triangle with thin gray pruinosity. Antenna brownish black, only 1st flagellomere basally and pedicel apically redish yellow; palpus yellow, haustellum gleaming black. Eye densely with yellowish long hairs. Frons at narrowest point 0.30 – 0.33 head width or as wide as eye. Frontal vitta 1.5 – 2.0 times as wide as fronto-orbital plate, and parafacial 0.8 – 1.0 times as wide as 1st flagellomere in profile. Gena 0.4 – 0.5 as wide as eye height. Lower facial margin slightly protruding beyond vibrissal angle. Inner vertical setae strong and parallel, 0.7 – 0.9 as long as eye height, outer vertical seta strong, outward, 0.7 – 0.8 as long as inner vertical

setae. 8 – 9 inclinate frontal setae. The lowest one extended to pedicel base. Fronto-orbital plate with 1 – 3 rows of black seta-like hairs, and inner hairs stronger; parafacial bare; occiput with pale hairs below postocular setae. Vibrissa situated below lower margin of face. 1st flagellomere about twice as long as wide, and 2.0 – 2.5 times as long as pedicel; pedicel with 1 – 2 black setae which as long as pedicel; arista bare, about as long as antenna, thickened at basal 2/3 – 3/4; aristomere 1 short, about 1.0 – 1.5 times as long as wide. Palpus as long as 1st flagellomere. Prementum 2.0 – 2.5 times as long as wide.

Thorax. Black in ground color, thoracic dorsum and pleura with gray pruinosity, and four black vittae on presutural scutum, the distance of pruinose portion between inner and outer vittae slightly wider than that of inner vittae; five black vittae on postsutural scutum, which only extended to anterior 2/5 – 1/2 of postsutural scutum. Scutellum red-yellow except black base. 2 presutural and 3 postsutural acrostichal setae; 3 presutural and 4 postsutural dorsocentral setae; 3 postsutural intra-alar setae; 3 supra-alar setae, prealar seta about as long as notopleural seta or intra-alar seta; 3 – 4 postpronotal setae, 3 basal setae arranged in a triangle; scutellum with 4 pairs marginal setae, without apical scutellar setae, a pair of discal scutellar setae weak, and slightly longer than scutellum. Prosternum bare, about 2.5 times as long as wide; 2 katapisternal setae; 2 anepimeral setae; katapimeron with 2 – 3 black hairs on anterior portion. Wing. Hyaline, pale brownish, tegula and basicosta black; calypter pale yellow, inner margin of lower calypter not divergent from scutellum. Halter yellow apically and basally, dark brown medially. 2nd costal section bare, costal spine short, about 1/2 length of crossvein r-m; relative lengths of 2nd, 3rd and 4th costal sections approximately 4.0:9.0:3.5. M at bend with a short

The research was supported by the National Science Foundation of China (30870331, 31093430), Collegial Science Foundation of Education Office of Liaoning Province (2008S213) and the Foundation of Experimental Center of Shenyang Normal University (SY200801).

Received 25 May 2010, accepted 1 Mar. 2011.



Figs 1 – 7. Male of *Fausta latipennis* sp. nov. 1 – 2. Body in lateral and dorsal views. 3. Head. 4 – 5. Cerci; surstylus; epandrium in posterior and lateral view. 6. Sternite 5. 7. Aedagal apodeme, hypandrium, phallus, pregonite and postgonite. Scale bars = 0.25 mm.

appendix which shorter than crossvein r-m, the distance of M from R-M to M-Cu 2.5 times that from M-Cu to bend, length of M-Cu to its bend equal to the distance between bend and posterior margin; radical node separately with 4 – 5 setolae dorsally and ventrally. Leg. Black, fore tibia with a row of anterodorsal setae, 3 short posterodorsal and 2 strong posterior setae, apical anterodorsal seta longer than

apical dorsal seta, fore pulvillus slightly shorter than fore tarsomere 5; mid tibia with 5 anterodorsal, 3 – 4 posterodorsal, 2 – 3 posterior and 2 anteroventral setae (upper one shorter); hind tibia with 5 – 6 anterodorsal, 4 posterodorsal, and 2 ventral setae (upper one shorter), apex with 2 dorsal setae, 1 anteroventral as long as 1 posteroventral seta.

Abdomen. Long ovate, black in ground color,

with gray pruinosity except black base, with a dark median vitta on tergites, a large black median spot on basal half of tergite 3, tergites with reclinate short black hairs; abdominal syntergite 1 + 2 medially excavate to its posterior margin, without median marginal setae, with 1 lateral marginal; tergite 3 with a pair of discal, 2 median marginal and 2 lateral marginal, and 1 – 2 lateral discal setae; tergite 4 with a pair of discal, 1 – 2 lateral discal and a row of marginal setae; tergite 5 separately with a row of discal and marginal setae. Male terminalia: sternite nearly square, lateral process indented on median portion, V-shaped median cleft shallow, about 1/3 as long as the sternite. Cerci long triangular, apical half slender and pointed; surstylus slender and its apex bent outward with 3 tooth-like spines in posterior. Hypandrium broad, phallapodeme slender, postgonite foot-like with some sparse setae dorsally, pointed at apex, pregonite bluntly rounded at apex, epiphallus knife-like, distiphallus broad in lateral view.

Female. Parafacial about as wide as 1st flagellomere in profile. Upper fronto-orbital plate with 2 strong proclinate orbital setae, 1 outward orbital seta; inner vertical seta strong, parallel, outer vertical seta outward, about 0.8 times as long as inner vertical seta; ocellar seta proclinate, about as long as upper frontal seta. Tarsi flattened. Abdomen ovate, sternite 2 with 4 black setae on posterior margin, sternite 3 with 2 – 3 black setae on posterior margin, sternites 4 and 5 separately with seta-like hairs on posterior margin, posterior margin of sternites 5 flattened. Others characters as in male.

Holotype ♂, China, Mt. Tiecha (41° 17' N, 124° 19' E; alt. 900 m), Benxi, Liaoning, 28 May 2006, ZHI Yan. Paratypes: 1 ♀, 30 May 2008, ZHANG Chun-Tian; 2 ♂♂, 30 May 2009, FU Chao, ZHOU Yuan-Ye, same locality as holotype.

Etymology. Specific epithet is taken from the character of wide phallus, latipennis.

Remarks. This species is similar to *F. inusta* Mesnil distributed in Inner Mongolia of China (Chao *et al.*, 1998: 2068), Japan and Russian E. Siberia, Far East (Zimin, 1960: 738; Richter, 2004: 298), but is distinguished from the latter in having wider frons, prementum 2.0 – 2.5 times as long as wide; yellow palpi; black legs and abdomen; tergite 3 with 2 discal, 1 – 2 lateral discal, 2 median marginal and 2 lateral marginal setae; tergite 4 with 2 discal, 1 – 2 lateral discal and a row of marginal setae.

2.2 *Acemya pyrrhocera* (Villeneuve, 1922) New record to China

Acemya pyrrhocera Villeneuve, 1922: 342.

Acemya pyrrhocera: Mesnil, 1962: 784 (redescription). Herting, 1984: 34 (catalog).

Acemya pyrrhocera: Herting & Dely-Draskovits, 1993: 173 (catalog).

Diagnosis. This species belongs to genus *Acemya* by the eye bare; frons of male without proclinate orbital setae; 1st flagellomere with sharply pointed apex, arista thickened at most on basal 2/5; prosternum bare; 2 katepisternal setae; abdominal tergite 5 without median discal setae; sternites exposed, without marginal setae. And it is similar to *A. rufitibia* Roser, but is distinguished from the latter by the frons of male about 1/3 eye width, antenna black with reddish yellow pedicel and scape; 1st flagellomere about twice as long as pedicel; palpi yellow; legs black except yellow apical 1/3 of femora in male; mid tibia with anterodorsal setae; abdominal syntergite 1 + 2 medially excavate to hind margin, with 2 median marginal setae.

Specimen examined. China, Mt. Tiecha, 900 m, Benxi, Liaoning, 1 ♂, 4 June 1989, ZHANG Chun-Tian.

Distribution. China; Mongolia, Tadzhikistan, Russian (Siberia, Transcaucasia), France.

2.3 *Hemyda obscuripennis* (Meigen, 1824) New record to China

Phania obscuripennis Meigen, 1824: 219.

Hemyda obscuripennis: Herting, 1984: 181 (catalog). Herting & Dely-Draskovits, 1993: 432 (catalog). Tschorsnig & Herting, 1994: 92, 165 (key). Ziegler & Shima, 1996: 441 (list). Richter 2004: 396 (key).

Diagnosis. This species belongs to *Hemyda* with the frons about 1/2 eyes width; hind margin of eye strongly indented, back of head with pale hairs behind the postocular row; lower facial margin usually not visible in lateral view; prementum at most three times as long as its diameter; wing cell r_{4+5} open or with a short petiole; preapical posteroventral seta on hind tibia absent; postmetacoxal area sclerotized; abdominal sternites well exposed; syntergite 1 + 2 not excavate to hind margin; terminalia of male and female prominent, well visible in lateral view. And it is similar to *H. vittata*, but is distinguished from the latter by the vibrissa only 1/5 – 2/5 as long as face height; 1 katepisternal seta; abdominal tergites with short marginal setae, which 1/6 – 1/4 as long as the tergite; anterior portion of syntergite 1 + 2 black.

Specimens examined. China, Mt. Tiecha, 640 – 912 m, Benxi, Liaoning, 1 ♂, 7 July 1970, XUE Wan-Qi; 1 ♂, 5 July 1977, XUE Wan-Qi; 1 ♂, 30 May 2008, ZHANG Chun-Tian.

Distribution. China; Japan, Russia (Central and South European parts, Far East), Europe (Mediterranean region, northwards to Czech, Slovakia, France, Germany, Hungary, Poland).

2.4 *Hemyda vittata* (Meigen, 1824) New record to China

Phania vittata Meigen, 1824: 219.

Hemyda vittata: Herting, 1984: 181 (catalog). Herting & Dely-

Draskovits, 1993: 432 (catalog). Tschorsnig & Herting, 1994: 92, 165 (key). Ziegler & Shima, 1996: 441 (list). Richter, 2004: 396 (key).

Diagnosis. This species is similar to *H. obscuripennis*, but is distinguished from the latter by the frons about 0.75 eye width; vibrissa about as long as face height; 2 katepisternal setae; abdominal tergites with short marginal setae, which 1/3 – 1/2 as long as the tergite; and a narrow black median vitta on tergites 2 and 3.

Specimens examined. China, Mt. Tiecha, Benxi, Liaoning, 1 ♂, 1 June 1977, XUE Wan-Qi; 5 ♂♂, 30 May 2009, ZHANG Chun-Tian; 1 ♂, 23 June 2009, ZHAO Zhe; 4 ♂♂, 13 June 2010, ZHANG Chun-Tian, LIU Yue.

Distribution. China; Japan, Russia (European part, Transcaucasia, Siberia, Far East), Europe (northwards to France, Germany, Sweden).

Acknowledgements We are grateful to H. Shima (Kyushu University, Fukuoka), J. O'Hara (Invertebrate Biodiversity, Agriculture & Agri-Food Canada, Ottawa), H. P. Tschorsnig (Staatliches Museum für Naturkunde, Stuttgart), and J. Ziegler (Humboldt-Universität zu Berlin, Museum für Naturkunde), and XUE Wan-Qi, HONG Yue, ZHOU Yuan-Ye, ZHI Yan, ZHAO Zhe and ZHOU Zheng-Yan (Shenyang Normal University), for their loans of specimens, kind help of drawings and photos. And we are thankful to the two anonymous referees for their critical review.

REFERENCES

- Chao, C-M *et al.* 1998. Tachinidae. In: Xue, W-Q and Chao, C-M (eds.), *Flies of China*. Vol. 2. [In Chinese with English summary] Liaoning Science and Technology Press, Shenyang. 1 366 – 2 425.
- Herting, B. 1984. Catalogue of Palearctic Tachinidae (Diptera). *Stuttgarter Beiträge zur Naturkunde, Serie A (Biologie)*, 369: 1 – 228.
- Herting, B. and Dely-Draskovits, Á. 1993. Family Tachinidae. In: Soós, Á and Papp, L. (eds.), *Catalogue of Palearctic Diptera*. Vol. 13. Anthomyiidae-Tachinidae. Hungarian Natural History Museum, Budapest. pp. 118 – 458.
- McAlpine, J. F. 1981. Morphology and terminology-adults. In: McAlpine *et al.* (eds.), *Manual of Nearctic Diptera*, Biosystematics Research Institute, Ottawa, Ontario. Vol. 1. 9 – 63.
- Sinclair, B. J. 2000. 1. 2. Morphology and terminology of Diptera male terminalia. In: Papp, L. and Darvas, B. (eds.), *Contribution to a Manual of Palearctic Diptera (with special reference to flies of economic importance)*. Vol. 1. General and Applied Dipterology. Science Herald, Budapest. 53 – 74.
- Richter, V. A. 2004. Fam. Tachinidae-tachinids. In: Sidorenko, V. S. (ed.), *Key to the Insects of Russian Far East*. Vol. VI. Diptera and Siphonaptera. Part 3. Dal'nauka, Vladivostok. pp. 148 – 398. [In Russian]
- Mesnil, L. P. 1944 – 1975. 64g. Larvaevorinae (Tachininae). Die Fliegen der Palaearktischen Region. 10 (Lieferung 153), 1 – 1 435. + pls. I – II.
- O'Hara, J. E., Shima, H. and Zhang, C-T 2009. Annotated catalogue of the Tachinidae (Insecta: Diptera) of China. *Zootaxa*, 2 190: 1 – 236.
- Tschorsnig, H. P. and Herting, B. 1994. Die Raupenfliegen (Diptera: Tachinidae) Mitteleuropas; Bestimmungstabellen und Angaben zur Verbreitung und Ökologie der einzelnen Arten. *Stuttgarter Beiträge zur Naturkunde, Serie A (Biologie)*, 506: 1 – 170.
- Tschorsnig, H. P. and Richter, V. A. 1998. Family Tachinidae. In: Papp, L. and Darvas, B. (eds.), *Contributions to a Manual of Palearctic Diptera (with special reference to flies of economic importance)*. Vol. 3. Higher Brachycera. Science Herald, Budapest. pp. 691 – 827.
- Ziegler, J. and Shima, H. 1996. Tachinid flies of the Ussuri area (Diptera: Tachinidae). *Beiträge zur Entomologie*, 46: 379 – 478.
- Zimin, L. S. 1960. Brief survey of parasitic Diptera of the subtribe Ernestiina in the Palearctic fauna (Diptera, Larvaevoridae), II. *Entomologicheskoe Obozrenie*, 39: 725 – 747. [In Russian] Note: At the end of the Russian title is “II” (not given with English title), indicating that this work continues from Zimin (1957). *English translation in Entomological Review*, 39 [1960]: 520 – 538, 1961.

辽宁铁刹山寄蝇科一新种及中国三新纪录种 (双翅目, 寄蝇科)

张春田 付超

沈阳师范大学, 辽宁省生物进化和生物多样性重点实验室 沈阳 110034; E-mail: chuntianzhang@yahoo.cn

摘要 发现并记述产自辽宁东部本溪县铁刹山国家森林公园寄蝇科中国 3 新纪录种: 红肛角刺寄蝇 *Acemya pyrrhocera* (Villeneuve), 茎何寄蝇 *Hemyda obscuripennis* Meigen, 条何寄蝇 *H. vittata* (Meigen) 和 1 新种; 新种模式标本和其它研究标本均保存在沈阳师范大学昆虫标本馆。

宽茎法寄蝇, 新种 *Fausta latipennis* sp. nov. (图 1~7)

本种外形近似分布在我国内蒙古, 日本和俄罗斯远东及东西伯利亚的缺缘法寄蝇 *F. imusta* Mesnil, 但新种具有较宽的额, 中喙长为其宽的 2.0 ~ 2.5 倍; 下颚须黄色; 足和腹部

均黑色; 腹部第 3 背板具 2 根心鬃, 1 ~ 2 根侧心鬃, 2 根中缘鬃和 2 根侧缘鬃; 第 4 背板具有 2 根心鬃, 1 ~ 2 根侧心鬃和 1 列缘鬃区别于后者。

正模 ♂, 辽宁本溪铁刹山, 900 m, 2006-05-28, 智妍采; 副模: 采集地同正模, 1 ♀, 2008-05-30, 张春田采; 2 ♂♂, 2009-05-30, 付超, 周媛烨采。

词源: 本种名源自外生殖器阳体一个鉴别特点, 宽的阳茎。

关键词 寄蝇科, 新种, 新纪录, 铁刹山, 中国。

中图分类号 Q969.453.5